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603 E. Liberty St.
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Plan review: Proposed single exit for screening room

The project is being reviewed for compliance with the requirements of the 2015 Michigan Building Code (MBC). The review is being performed to determine whether the proposed configuration complies with the code regarding the number of exits required from the existing Screening Room building. The Screening Room building is a separate building from the Michigan Theater building. The plan being reviewed is dated April 14, 2022, and is provided by Bowers + Associates with a project number shown as 18-800.

Background: Means of egress

Means of egress from any portion of a building is defined as being a “continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way” (Michigan Building Code 202).

The definition for means of egress further defines it as consisting of three separate and distinct parts. Each of these parts is also defined in MBC 202 and various code sections address each:

1. **Exit access:** Leads to an exit from an occupied space (see 202)
2. **Exit:** A building component between the exit access and the discharge (see 202)
3. **Exit discharge:** Leads from the exit to the public way (see 202)

Proposal:

The proposal requests approval to use a single exit scenario from the screening room based upon the allowances of Table 1006.2.1 of the Michigan Building Code. Two exits, or access to exits, is the usual default position of the code unless fewer, or more, means of egress are required by Chapter 10 of the MBC.

In this case, the proposal is for a single exit from the Screening Room building, based on Table 1006.2.1 which allows such a configuration if the space has a maximum occupancy of 49 occupants, and a travel distance of not more than 75 ft. to an exit. The plan indicates that an existing corridor within the screening room building would be converted for use as an exit passageway that would connect the screening room building to an exit discharge point and into the lobby of the Michigan Theater. This exit passageway would thus be used as the single exit from the space after being altered to comply with the requirements for exits by using fire-resistance rated exit doors at all points entering and leaving the passageway and by creating a fire-resistance rated enclosure.

The proposal also seems to indicate that the lobby of the Michigan Theater building is also an exit passageway, but this is doubtful given the requirements of the code for exit passageways, and the configuration of the theater building lobby. If this were the case, the theater lobby would not be able to be used for anything other than a means of egress and circulation paths and would need to be properly enclosed and fire-resistance rated.

Recommendation:

This proposal does not comply with the Michigan Building Code and denial is recommended for

the following reasons:

1. Table 1006.2.1 Occupant Load:

The maximum occupant load limit for a single exit, assembly occupancy space, is 49 occupants. While the proposal indicates that the screening room will be limited to 49 occupants, no documentation has been presented. The drawing shows over 180 seats and includes a lobby where standing space would be included. The area of the screening room, approximately 2200 sq. ft. would allow a load of 190 occupants using the unit rate for seating (chairs only / not fixed) (1:7 sq. ft. net). Further the lobby, at approximately 675 sq. ft. would allow for an occupant load of 80 using the factor for standing space (1:5 sq. ft. net). Together, it is possible to calculate an occupancy of approximately 270 occupants in the space, or approximately 6 times the maximum permitted limit of Table 1006.2.1.

While the code does allow the Building Official to use the actual number of occupants for whom each occupied space is designed as a basis for approval, even though that number may be less than those determined by calculation, no documentation has been provided to substantiate this number. Given the extremely large discrepancy between the seating plan, the unit numbers, and the proposed number of 49, this allowance is not recommended (MBC 1004.1.2).

2. Exit Passageway (MBC 1024) & Exit Discharge (MBC 1028) concept:

Michigan Building Code section 1024 addresses exit passageways as components of means of egress. Exit passageways on the level of exit discharge, such as that proposed here, are required to terminate at an exit discharge (1024.4). While it may be argued that the exit terminates into an exit discharge, emptying into the lobby of the adjacent Michigan Theater Building, it would not be emptying into any kind of approvable exit discharge. Section 1028.1 (addressing exit discharge) clearly states:

- a. Exits shall discharge directly to the exterior of the building and
- b. Exit discharge shall not re-enter a building (1028.1)

The proposed discharge in this case does not exit directly to the exterior of the building and in fact enters another building where the path continues. Configured as it is, it is not actually any form of acceptable exit discharge at all, at least not from the Screening Room building point-of-view.

The only three exceptions from discharging directly to the exterior are found in MBC 1028.1. The first two limit their use to not more than 50% of the number of exits required and, in any case, neither is applicable unless the conditions of their use listed in those sections complies. Clearly, the 50% limit is difficult to overcome. While the potential to use one of the exceptions might be possible if the screening room building had a second exit, neither may be used in this case.

The restriction from re-entering “a” building does not necessarily mean the same building (it does not say “the” building) but it may be argued that it assumes direct access to the exterior in either case and from there must lead directly to the public way. Once a point of safety is reached in the exit discharge, entering a (whether the same or another) building is not permitted. In this case, occupants have not really exited any building, still being within the Michigan Theater building.

3. Horizontal Exit (MBC 1026):

It might be argued that the door into the Michigan Theater building constitutes a “Horizontal Exit” as regulated by MBC section 1026, and that it enters into the Michigan Theater building lobby to continue egress from the Screening Room building. But even if that argument is made, and even if the lobby is argued to be another exit passageway, the configuration proposed does not comply.

A horizontal exit, which may be simply a door between compartments, is defined as being “an exit

component consisting of fire-resistance rated construction and opening protectives intended to compartmentalize portions of a building thereby creating refuge areas that afford safety from the fire and smoke from the area of fire origin". Section MBC 1026.1, however, clearly states that a horizontal exit "shall not serve as the only exit from a portion of a building" (1026.1). The Screening Room building would not have a second exit.

The horizontal exit section is intended to be used primarily for compartmentation of institutional occupancies such as hospitals, nursing homes or prisons, where smoke compartments are needed to sub-divide large floor areas. It is not intended to address situations where people leave one building to exit through another. While it need not discharge to the exterior (see MBC 1028.1 (3)) it may not serve as the only way out as it would here.

Conclusion / Summary:

For the above reasons, the proposal is not recommended for approval. It seems clear from this analysis that there is simply too much variation from the code requirements to allow this single-exit configuration.

In summary:

1. The occupant load proposed is unsubstantiated, and the discrepancy between the proposed occupant load and the potential occupant load is extremely large (ratio of 1:6) (MBC 1004).
2. The proposed exit passageway does not discharge to the exterior of the building (MBC 1028.1), but rather into another building.
3. Absent a second exit from the screening room, none of the exceptions for exit discharge to an interior space are possible, even if allowed to another building, since those exceptions limit their use to not more than 50% of the number of required exits (MBC 1028.1 (1) and (2) or to horizontal exits (3).
4. A horizontal exit also may not serve as the only exit from a portion of the building (MBC 1026.1).